



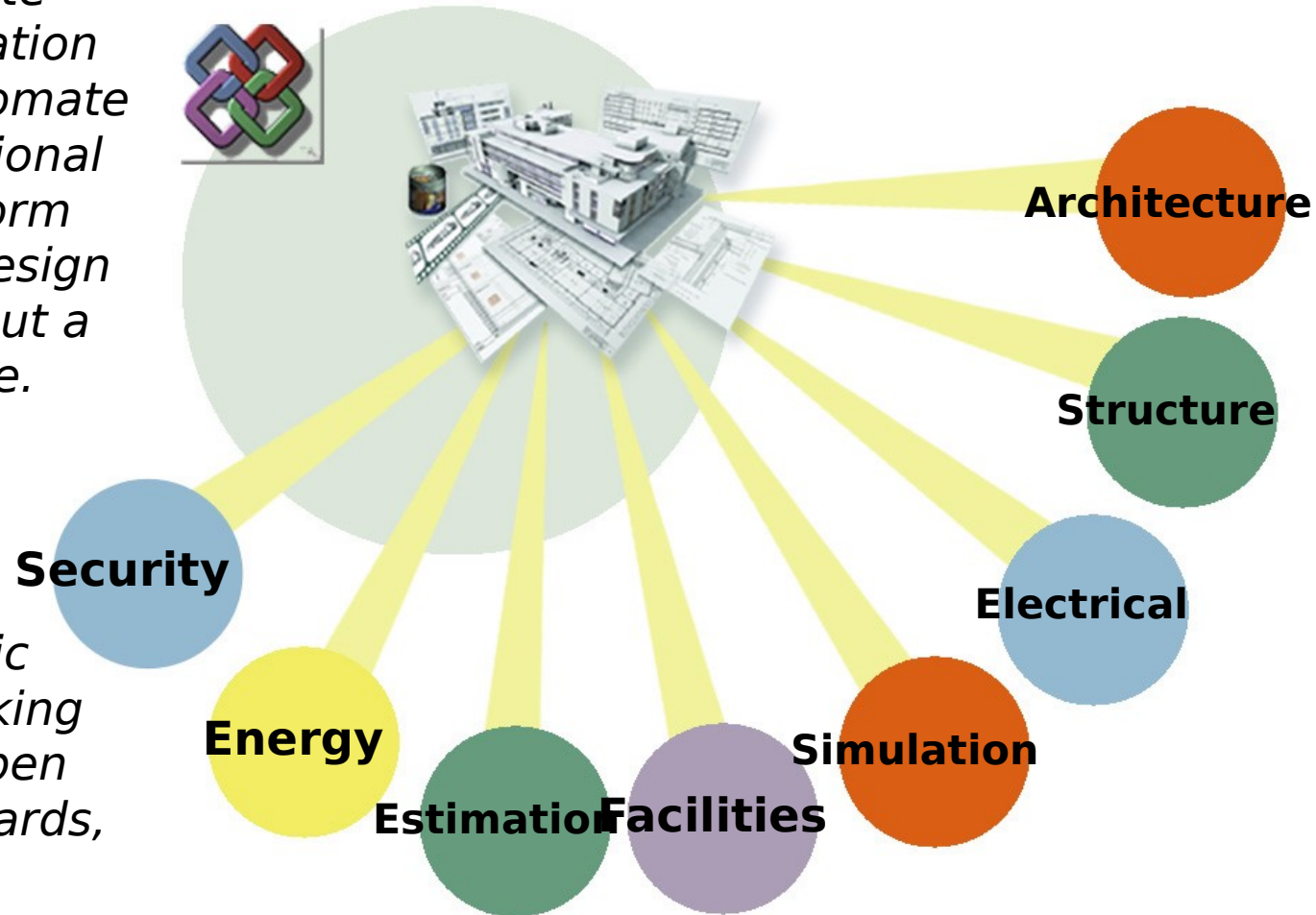
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What is “BIM”

(Building Information Modeling)

The ability to create and reuse information technology to automate or eliminate traditional tasks and/or perform higher levels of design analysis throughout a building's lifecycle.

Supporting technologies include parametric objects, multitasking processes and open information standards, IAI-Hfc





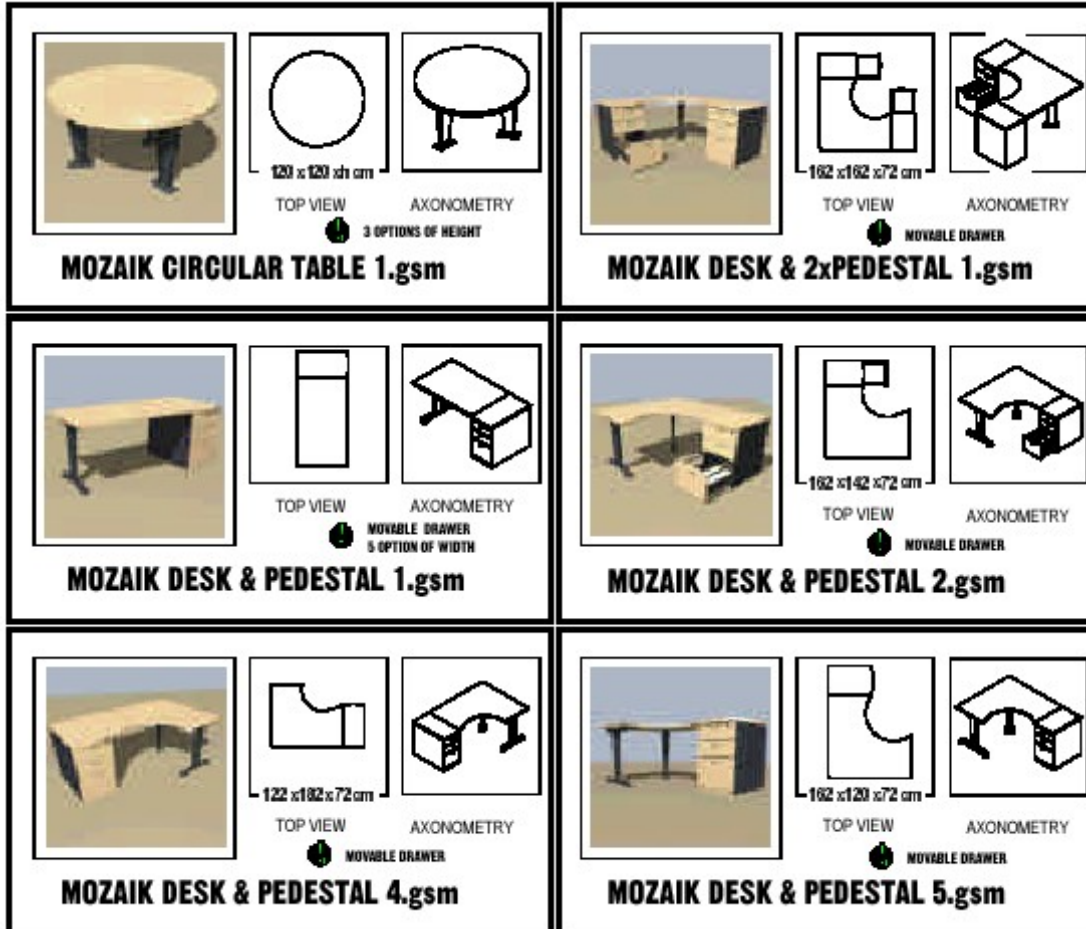
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The recent push to promote BIM promises to substantially raise the state of the art in computer-aided design. We could finally see an end to the days of dumb 2D drawings, and use intelligent 3D building models not just for design, but also for the construction, operation, and maintenance of buildings.



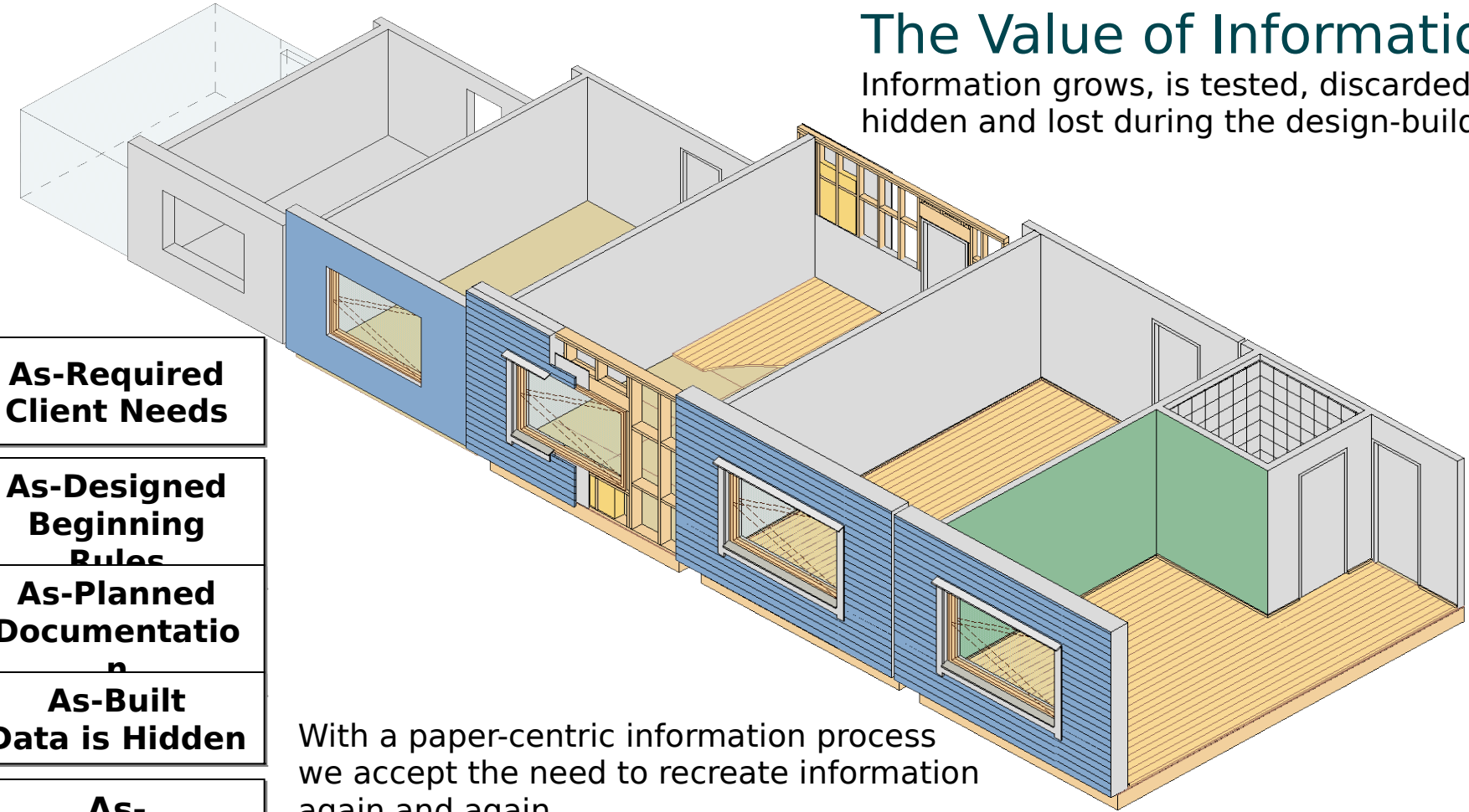
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Typical Object Libraries



The Value of Information

Information grows, is tested, discarded, hidden and lost during the design-build process



**As-Required
Client Needs**

**As-Designed
Beginning
Rules**

**As-Planned
Documentation**

**As-Built
Data is Hidden**

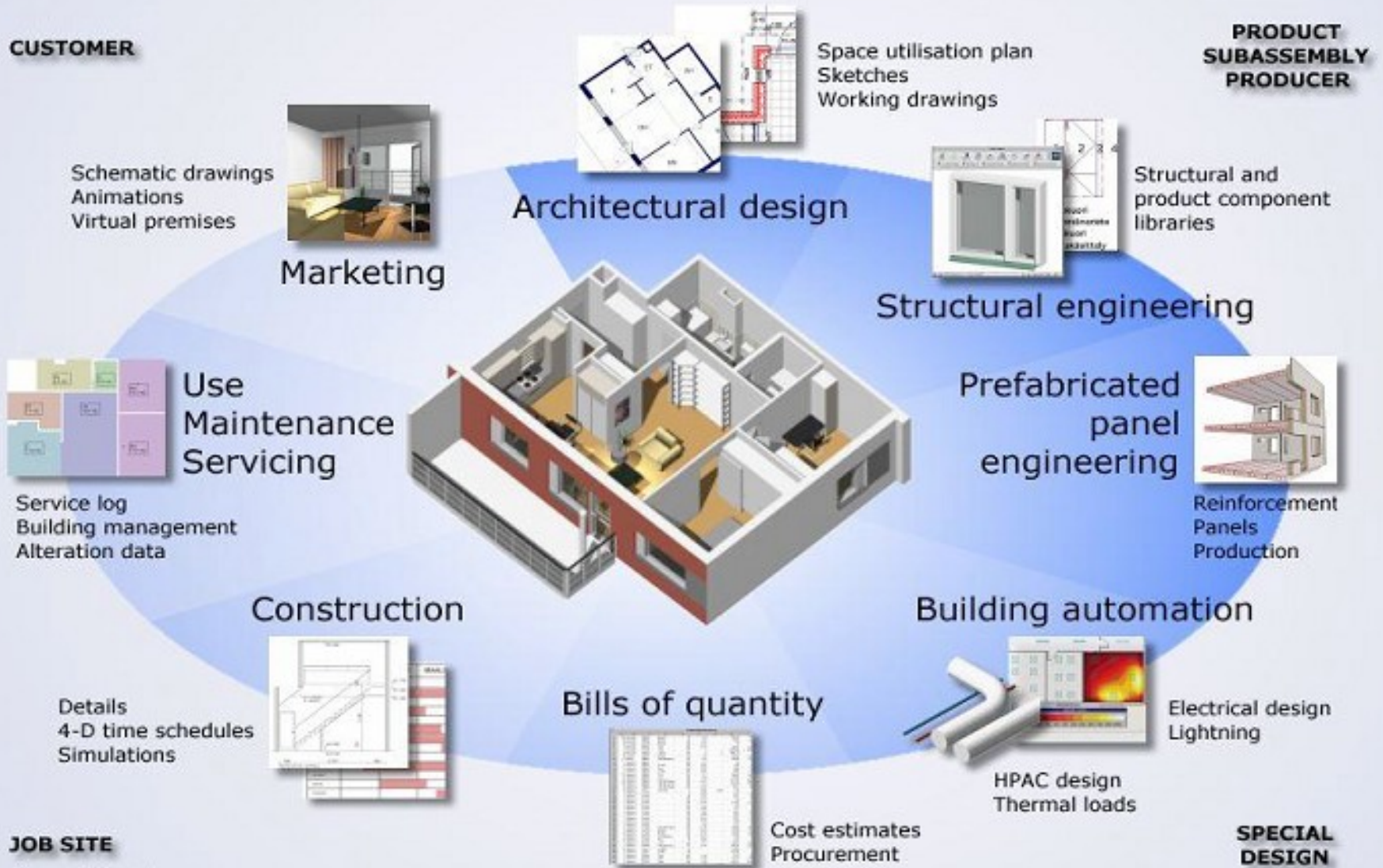
**As-
Maintained
Data Updated
Must be
Accessible**

With a paper-centric information process we accept the need to recreate information again and again.

30% of a new renovation project is recreation of data from 2D-text stored information.

In a model based process information which was hidden and lost can be made visible, active, and re-useable through the “virtual building model” and integrated data.

BIM Object Technology

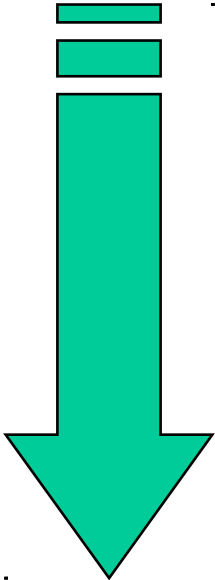




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BIM Capabilities

BIM
Capabilities

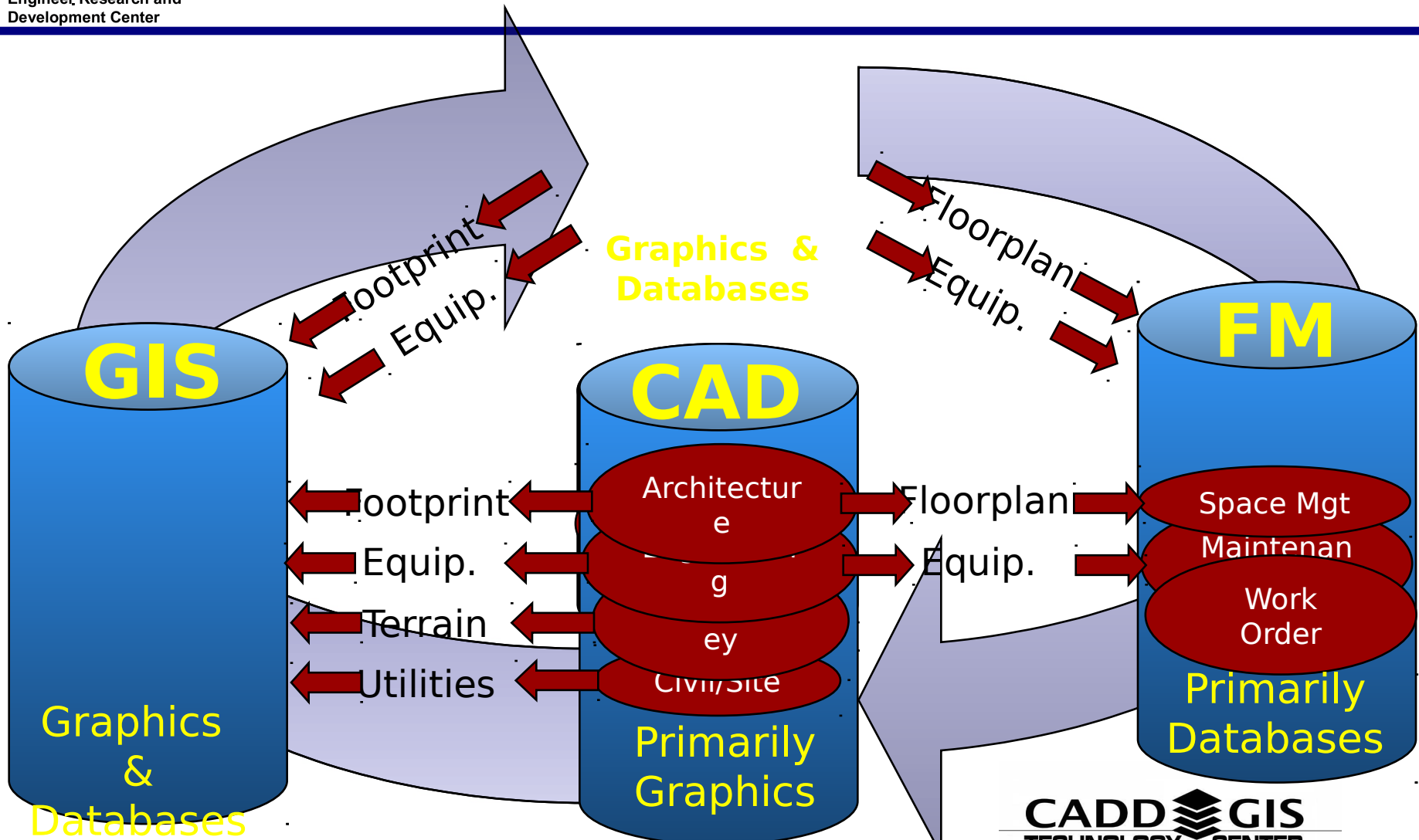


	Autodesk	Bentley	Graphis oft
Basic Graphic Engine	ArchiCAD	MicroStati on	
Object Modeler	Architectur al Desktop	TriForma	
Parametri c Object Modeler	Revit		ArchiCA D



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CAD and GIS Integration



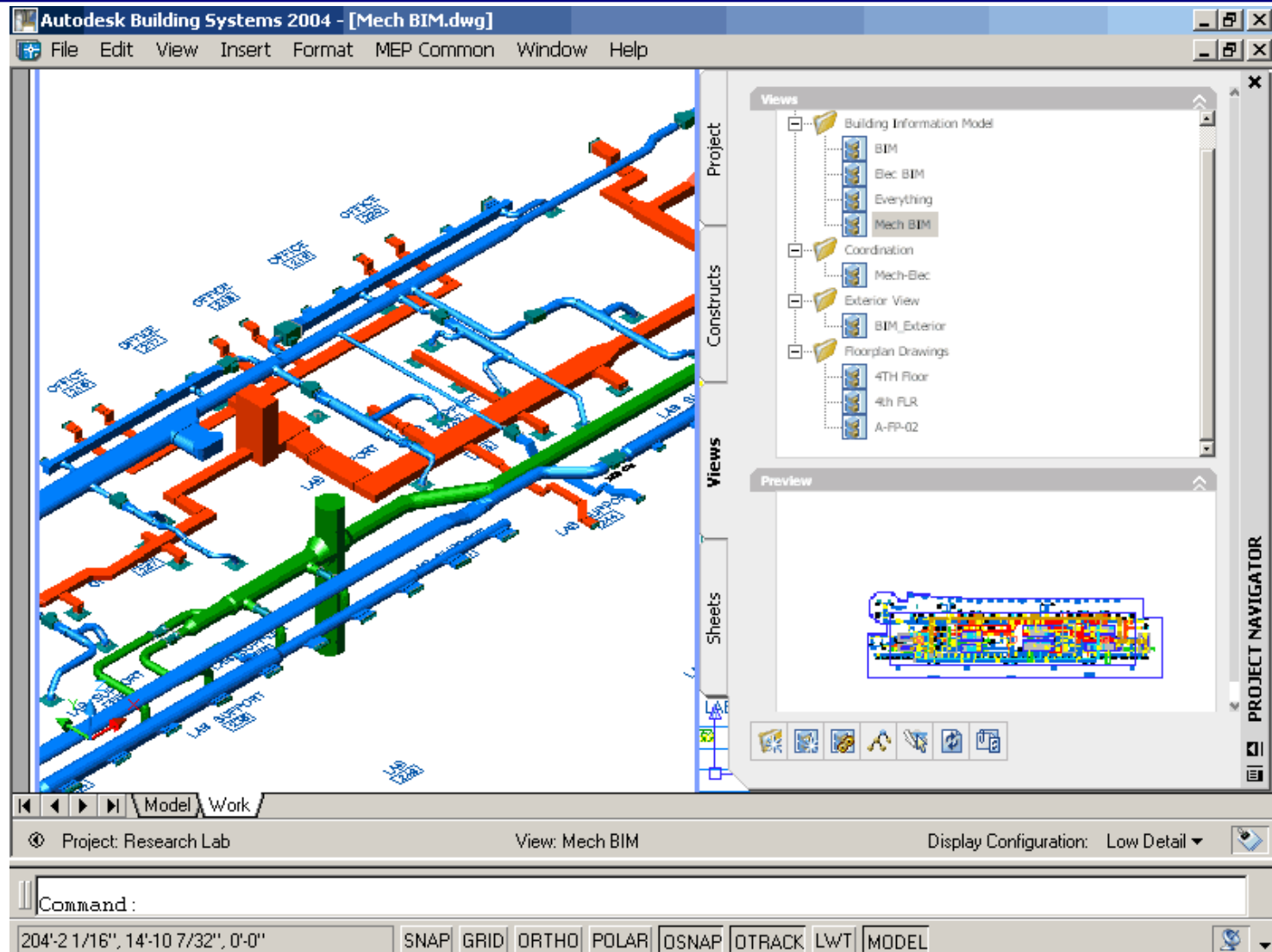
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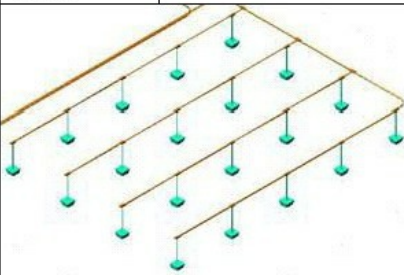
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BIM for Mechanical



BIM for Electrical

Circuits



Circuits track properties such as load, number of attached devices, and length. Circuits connect devices to panels, with or without wiring. Circuits can be defined as single, two, or three poles; each can have a voltage associated with it. Circuits automatically flag overload situations when too many devices are connected.

Autodesk Building Systems ensures accuracy while you design electrical systems, reducing steps in the design process.

Optional wiring display helps you avoid clutter for clearer construction documents.

You can design circuits using multi-pole connections to reflect actual designs, helping you to make your construction documents as accurate as possible. You can assign wiring to more than one circuit, to show multiple circuits in a single wiring run (with multiple home run arrows) simplifying drawings and making you faster.

Automatic prompts reduce mistakes by notifying you of potential overloads as they occur, helping you avoid errors and rework.

Circuit Manager

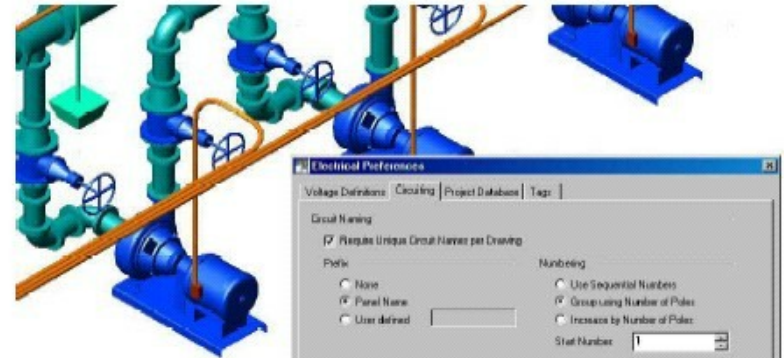
Description	Rating	Panel	# of Devices	Circuit Length	# of Poles	Voltage	Total Load
1 Lighting - LP1 Standby Room	20	LP1	6	180' 11 1/2"	1	277	1200.00
2 Secondary Lighting - LP1 Standby Room	20	LP1	8	154' 5 1/2"	1	277	3000.00
3 Lighting - HPS1 & LP1 Pump Room	20	LP1	12	200' 7 1/2"	1	277	1200.00
4 Secondary Lighting HPS1 & LP1 Pump...	20	LP1	8	160' 7 1/2"	1	277	800.00
6 Tank Room - Lighting	20	LP1	6	112' 5 1/2"	1	277	1600.00
7	20	LP1	0	0"	1	277	0.00

The Circuit Manager enables you to add, modify, and delete circuits in the drawing. It also serves as the central location for editing panel schedule data such as description and rating. Any overloaded circuit appears highlighted in red.

Circuit Manager enables you to work more efficiently by giving you a single location to manage and edit circuit information.

Automatic prompts notify you of potential overloads as they occur, helping you avoid errors and rework.

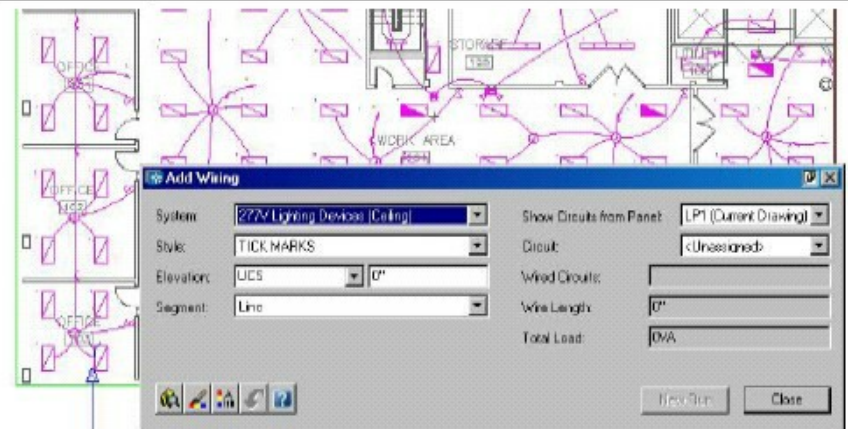
Circuit Naming Preferences



The circuit naming preference enables you to specify how to name circuits as they are created. You can select simple numbered circuits, use the panel name as a prefix, or create a custom prefix for circuit names.

Circuit naming preferences enable you to automatically name circuits according to the building standard, avoiding confusion in the field during construction.

Wiring



Wiring enables you to show connections between lighting fixtures, receptacles, switches, and other devices and panels. Because the wire is intelligent, it automatically creates a circuit, enabling you to perform a circuit analysis and generate schedules with a few mouse clicks. Annotation of wiring is flexible, with an extensive set of tools to control tick marks, ground symbols, and line types.

Wiring between devices and panels enables you to quickly make construction documents that show connectivity. Wiring assists with the coordination of data, helping you to avoid costly errors. Wiring also "monitors" the number of circuits connected and shows the home runs associated with those connections. Display wiring in accordance with your office standards, saving time and eliminating confusion.



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BIM for FM and Cost Development

Graphisoft ArchiRM 2000

Detailed Renting Costs

Tenant Name: Graphisoft R&D Rt.

Address: Owner
(GRAPHISO1031-00 - 36 - 1- 437 3099
Hungary, Budapest

Account Number:
Registry Court: 103000002-20358738-00003205
Info:

Phone: 1031
Cellular: mail@graphisoft.hu
Fax: 00 - 36 - 1- 437 3000
E-Mail:

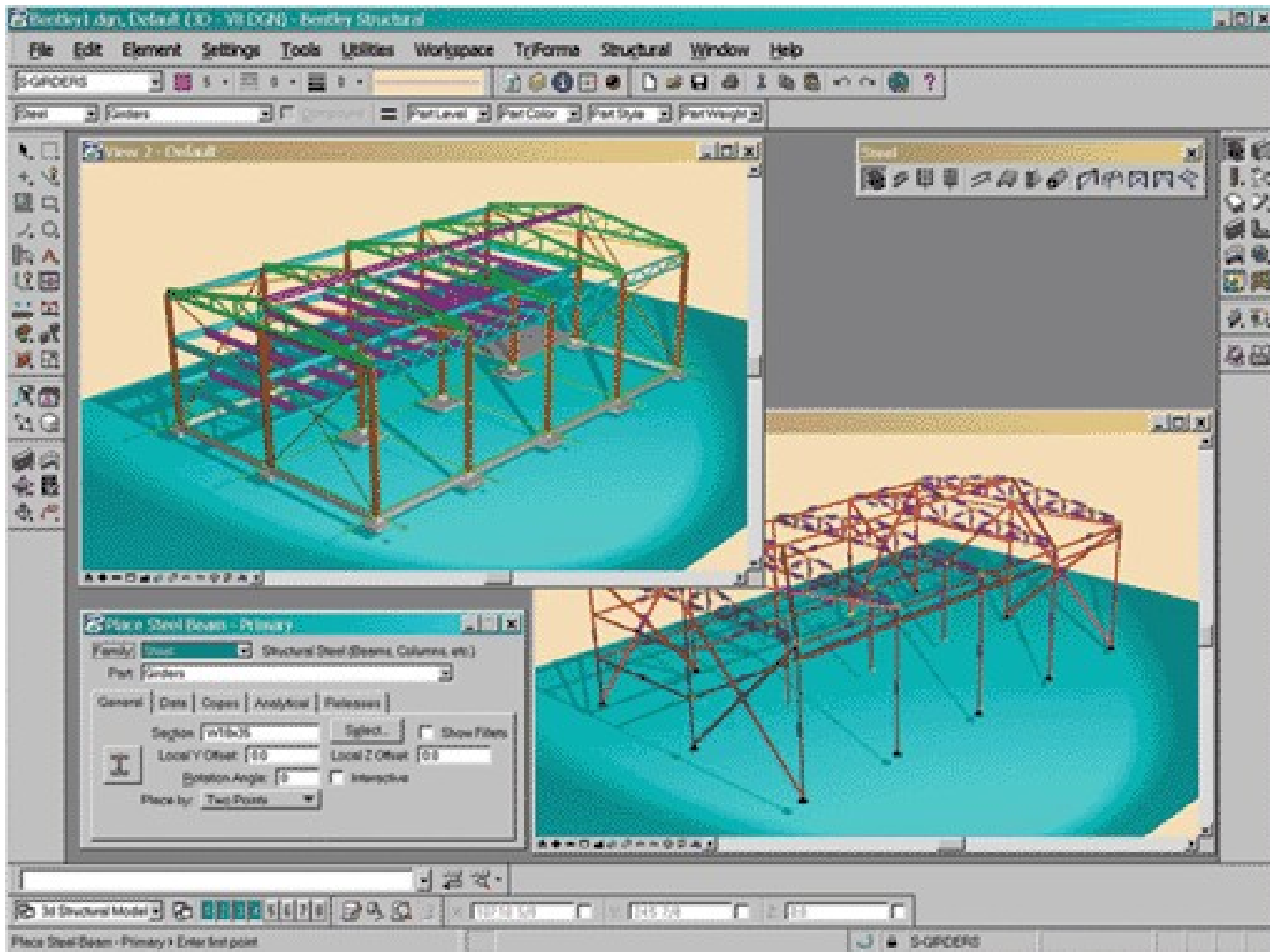
Building:	Central Building		Period:	Rented/whole area	Price
Corridor	GF101	1st Story	11/1/99-11/30/99	15.262/ 76.311	267.09
Corridor	GF201	2nd Story	11/1/99-11/30/99	10.215/ 51.076	178.77
Corridor	GK101	1st Story	11/1/99-11/30/99	10.571/ 52.856	185.00
Corridor	GK109	1st Story	11/1/99-11/30/99	11.995/ 59.976	209.92
Corridor	GK201	2nd Story	11/1/99-11/30/99	5.708/ 28.538	99.88
Kitchen	GE106	1st Story	11/1/99-11/30/99	0.169/ 0.847	2.96
Kitchen	GF119	1st Story	11/1/99-11/30/99	0.867/ 4.337	15.18
Kitchen	GF216	2nd Story	11/1/99-11/30/99	0.305/ 1.525	5.34
Kitchen	GK124	1st Story	11/1/99-11/30/99	0.398/ 1.992	6.97
Kitchen	GK214	2nd Story	11/1/99-11/30/99	1.390/ 6.952	24.33
Office	GK012	Ground Floor	11/1/99-11/30/99	9.906	173.36
Office	GF011	Ground Floor	11/1/99-11/30/99	16.891	295.59
Office	GF012	Ground Floor	11/1/99-11/30/99	9.978	174.62
				93.657	1,639.00
				Modifier:	0.00
				Total for Building:	1,639.00
				Total Rent:	1,639.00
				Additional Cost:	-620.74
				Total Price:	1,018.26





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BIM In Structural Design and Analysis



**ANFO 2000
LBS
Simulation
of
Fragment
Sphere
1797
Meters**

